

DERWENT-ACC-NO: 2000-059514
DERWENT-WEEK: 200210
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TITLE: Metal oxide coating material for anode active material of lithium secondary battery - consists of three different elements of which one is chosen from group containing nickel, cobalt, manganese, calcium, strontium, barium, titanium, vanadium, chromium, iron, copper and aluminum

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PATENT-ASSIGNEE: SAMSUNG DISPLAY DEVICES CO LTD[SMSU], SAMSUNG DENKAN KK[SMSU], SAMSUNG SDI CO LTD[SMSU]

PRIORITY-DATA: 1998KR-0042956 (October 14, 1998) , 1998KR-0003755 (February 10, 1998) , 1998KR-0012005 (April 6, 1998)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE	LANGUAGE
KR 277796 B	000	MAIN-IPC H01M 004/48	N/A
JP 11317230 A	021	February 1, 2001 November 16, 1999	N/A
CN 1228620 A	000	H01M 004/58	N/A
KR 99071411 A	000	September 15, 1999 H01M 004/36	N/A
KR 99079408 A	000	September 27, 1999 H01M 004/48	N/A
SG 82599 A1	000	November 5, 1999 H01M 004/48	N/A
		August 21, 2001 H01M 004/48	N/A

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-DESCRIPTOR	APPL-NO
KR 277796B	1998KR-0042956	N/A October 14, 1998	
KR 277796B		Previous Publ.	KR 99071411

N/A	
JP 11317230A	N/A
1999JP-0070652	February 10, 1999
CN 1228620A	N/A
1999CN-0105518	February 10, 1999
KR 99071411A	N/A
1998KR-0042956	October 14, 1998
KR 99079408A	N/A
1998KR-0012005	April 6, 1998
SG 82599A1	N/A
1999SG-0000508	February 10, 1999

INT-CL (IPC): H01M004/02; H01M004/04 ; H01M004/36 ;
H01M004/48 ;
H01M004/50 ; H01M004/52 ; H01M004/58

ABSTRACTED-PUB-NO: JP 11317230A

BASIC-ABSTRACT: NOVELTY - The metal oxide coated on surface of anode active material satisfies the formula $\text{LiAl}_{1-x-y}\text{B}_x\text{C}_y\text{O}_2$, where A is an element chosen from the group which consists of Ni, Co and MN. B is an element chosen from the group consisting of Ni, Co, Mn, B, Mg, Ca, Sr, Ba, Ti, V, Cr, Fe, Cu and Al. C is an element chosen from the group consisting of Ni, Co, Mn, B, Mg, Ca, Sr, Ba, Ti, V, Cr, Fe, Cu and A.

USE - For anode active material of lithium secondary battery used as power supply for portable electronic machine.

ADVANTAGE - The anode active material increases the safety of battery by increasing structural and thermal stability. Quantity of lithium in the active material can be adjusted easily and the life span also can be increased.

CHOSEN-DRAWING: Dwg.1/23

TITLE-TERMS:

METAL OXIDE COATING MATERIAL ANODE ACTIVE MATERIAL
LITHIUM SECONDARY BATTERY
CONSIST THREE ELEMENT ONE CHOICE GROUP CONTAIN NICKEL
COBALT MANGANESE CALCIUM
STRONTIUM BARIUM TITANIUM VANADIUM CHROMIUM IRON COPPER

DERWENT-CLASS: L03 X16

CPI-CODES: L03-E01B8;

EPI-CODES: X16-B01F1; X16-E01C1; X16-E01G;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-016316

Non-CPI Secondary Accession Numbers: N2000-046739

DERWENT-ACC-NO: 2001-083371

DERWENT-WEEK: 200110

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TITLE: Lithium secondary battery has composite particle positive electrode active material comprising transition metal oxide base particle coated with preset metal layers

PATENT-ASSIGNEE: SANYO ELECTRIC CO LTD[SAOL]

PRIORITY-DATA: 1998JP-0227665 (July 27, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
JP 2000048820	February 18, 2000	N/A
007	H01M 004/62	

A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
JP2000048820A	N/A	
1998JP-0227665	July 27, 1998	

INT-CL (IPC): H01M004/02; H01M004/04 ; H01M004/58 ; H01M004/62 ; H01M010/40

ABSTRACTED-PUB-NO: JP2000048820A

BASIC-ABSTRACT: NOVELTY - The battery has non-aqueous electrolyte which is mixture of lithium salt and organic solvent, and positive electrodes (1) containing composite particle active material. The composite particle comprises base particle containing oxides of transition elements selected from Co, Ni, M and Fe. The base particle is coated with conductive layer of metal chosen from Mg, Al, Ba, Sr, Ca, Zn, Sn, Bi, Ce and/or Yb.

USE - Lithium secondary battery.

ADVANTAGE - Improves charging and discharging cycle characteristics of lithium secondary battery by using positive electrode active material with predefined composite particles.

DESCRIPTION OF DRAWING(S) - The figure shows the sectional view of lithium secondary battery.

Positive electrodes 1

CHOSEN-DRAWING: Dwg.1/1

TITLE-TERMS:

LITHIUM SECONDARY BATTERY COMPOSITE PARTICLE POSITIVE ELECTRODE ACTIVE MATERIAL
COMPRIZE TRANSITION METAL OXIDE BASE PARTICLE COATING
PRESET METAL LAYER

DERWENT-CLASS: L03 X16

CPI-CODES: L03-E01B8;

EPI-CODES: X16-B01F; X16-E01; X16-E01C; X16-E01G;
X16-E09;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2001-024371

Non-CPI Secondary Accession Numbers: N2001-063698

DERWENT-ACC-NO: 2000-545568
DERWENT-WEEK: 200142
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TITLE: Non-aqueous electrolyte secondary battery for video camera, has metal oxide coating on surface of carbon active material of cathode

PATENT-ASSIGNEE: SHIN KOBE ELECTRIC MACHINERY[KOBE]

PRIORITY-DATA: 1998JP-0177502 (June 24, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
JP 2000012026	January 14, 2000	N/A
004	H01M 004/58	

A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
JP2000012026A	N/A	
1998JP-0177502	June 24, 1998	

INT-CL_(IPC): H01M004/02; H01M004/58 ; H01M010/40

ABSTRACTED-PUB-NO: JP2000012026A

BASIC-ABSTRACT: NOVELTY - A metallic oxide is coated over the surface of carbon used as active material of a negative electrode. The metal used in metallic oxide is chosen out of nickel, cobalt, copper, gold, molybdenum or tungsten.

USE - For use as main or backup power supply in video camera, portable telephone set, personal computer, household electric appliances and for electric vehicles.

ADVANTAGE - Secondary battery excellent in preservation property and charging-discharging cycle is provided.

CHOSEN-DRAWING: Dwg. 0/0

TITLE-TERMS:

NON AQUEOUS ELECTROLYTIC SECONDARY BATTERY VIDEO CAMERA
METAL OXIDE COATING
SURFACE CARBON ACTIVE MATERIAL CATHODE

DERWENT-CLASS: L03 X16

CPI-CODES: L03-E01B3;

EPI-CODES: X16-B01F1; X16-E01C1;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1669U

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-162547

Non-CPI Secondary Accession Numbers: N2000-403637

DERWENT-ACC-NO: 2000-381965
DERWENT-WEEK: 200116
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TITLE: Lithium transition metal halide oxides used as positive electrode active materials of lithium secondary batteries

PATENT-ASSIGNEE: UBE IND LTD [UBEI]

PRIORITY-DATA: 1998JP-0296266 (October 19, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
JP 3141858 B2	March 7, 2001	N/A
012	C01G 037/06	
JP 2000128539	May 9, 2000	N/A
019	C01G 037/06	

A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
JP 3141858B2	N/A	
1998JP-0296266	October 19, 1998	
JP 3141858B2	Previous Publ.	JP2000128539
N/A		
JP2000128539A	N/A	
1998JP-0296266	October 19, 1998	

INT-CL (IPC): B22F001/02; C01G037/06 ; C01G045/06 ;
C01G049/10 ;
C01G051/08 ; C01G053/09 ; H01M004/02 ; H01M004/04 ;
H01M004/58 ;
H01M010/40

ABSTRACTED-PUB-NO: JP2000128539A

BASIC-ABSTRACT: NOVELTY - Lithium transition metal halide oxide is characterized in that it contains mainly a transition metal oxide containing lithium or a transition metal halide oxide containing lithium, its particle surfaces are coated with a crystalline metal halide, and the atomic ratio of

halogen to transition metal is in a certain range.

DETAILED DESCRIPTION - Lithium transition metal halide oxide is characterized in that it contains mainly a transition metal oxide containing lithium or a transition metal halide oxide containing lithium of formula $Li_aM_bO_cX_d$ ($M =$ at least one metal selected from Cr, Mn, Fe, Co, and Ni, $X =$ at least one halogen, $a =$ greater than or equal to 0.2 and less than or equal to 1.2, $b =$ greater than or equal to 0.8 and less than or equal to 1.2, $c =$ greater than or equal to 1.7 and less than or equal to 2.1, and $d =$ greater than or equal to 0 and less than or equal to 0.3), the particle surfaces of the lithium transition metal halide oxide are coated with a crystalline metal halide of formula NX_e ($N =$ at least one metal selected from Li, Mg, Al, Ca, Ti, V, Cr, Mn, Fe, Co, and Ni, $X =$ at least one halogen, and $e =$ a valence equivalent to that of metal N), the atomic ratio of halogen (X) present on the particle surfaces in the form of a crystalline metal halide to metal (M), X/M , is 0.01-0.5, the atomic ratio of halogen (X) present in the particles in the form of a solid solution substituting oxygen atoms to metal (M), X/M , is at least 0.002, and the ratio of the sum of two kinds of halogen atoms (X) to metal atoms (M), X/M , is 0.02-0.5. INDEPENDENT CLAIMS are also included for the preparation of the lithium transition metal halide oxide and for lithium secondary batteries which use the lithium transition metal halide oxide.

USE - The lithium transition metal halide oxides can be used as positive electrode active materials in lithium secondary batteries.

ADVANTAGE - The lithium transition metal halide oxides obtained have good cycle characteristics even at high temperatures.

CHOSEN-DRAWING: Dwg.0/2

TITLE-TERMS:

LITHIUM TRANSITION METAL HALIDE POSITIVE ELECTRODE ACTIVE
MATERIAL LITHIUM
SECONDARY BATTERY

DERWENT-CLASS: L03 P53 X16

CPI-CODES: L03-E01B5;

EPI-CODES: X16-B01F1; X16-E01C1; X16-E01G;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-116004

Non-CPI Secondary Accession Numbers: N2000-287330